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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
LY, CHEYNE D
ART UNIT
1631
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/973,994	CAIRNEY ET AL.
	Examiner	Art Unit
	Cheyne D Ly	1631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-61 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) Claim(s) ____ is/are allowed.
 6) Claim(s) ____ is/are rejected.
 7) Claim(s) ____ is/are objected to.
 8) Claim(s) 1-61 are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 11) The proposed drawing correction filed on ____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The art unit designated for this application has changed. Applicants(s) are hereby informed that future correspondence should be directed to Art Unit 1631.

Election/Restrictions

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
- I. Claims 1, 10 and 11, drawn to a relational database comprising the data of Table 1, classified in class 707, subclass 1. If this Group is elected, then the below summarized sequence election is required. If this Group is elected, then the below summarized 2 species sets (A and B), election of a species from each set is required.
 - II. Claims 2-9, drawn to a method for staging embryos comprising providing at least one embryo, detecting expression and correlating expression, classified in class 435, subclass 6. If this Group is elected, then the below summarized sequence election is required. If this Group is elected, then the below summarized 2 species sets (A and B), election of a species from each set is required.
 - III. Claims 12 and 13, drawn to an array, classified in class 422, subclass 68.1. If this Group is elected, then the below summarized sequence election is required. If this Group is elected, then the below summarized 2 species sets (A and B), election of a species from each set is required.
 - IV. Claims 14-16 and 25-29, drawn to a method for staging plant embryos comprising selecting total RNA, correlating expression pattern, determining levels of expression, and correlating expression pattern to the relational database, classified

in classes 435 and 702, subclasses 6 and 19, respectively. If this Group is elected, then the below summarized sequence election is required. If this Group is elected, then the below summarized 2 species sets (A and B), election of a species from each set is required.

- V. Claims 17, 19, 22-24, and 47-52, drawn to an isolated nucleic acid, classified in class 536, subclass 23.1. If this Group is elected, then the below summarized sequence election is required. If this Group is elected, then the below summarized 2 species sets (A and B), election of a species from each set is required.
- VI. Claim 18, drawn to a polypeptide, classified in class 530, subclass 350. If this Group is elected, then the below summarized sequence election is required. If this Group is elected, then the below summarized 2 species sets (A and B), election of a species from each set is required.
- VII. Claims 20 and 21, drawn to an antibody, classified in class 530, subclass 387.1. If this Group is elected, then the below summarized sequence election is required. If this Group is elected, then the below summarized 2 species sets (A and B), election of a species from each set is required.
- VIII. Claims 30-36, drawn to a method for selecting advantageous plant clones, classified in class 435, subclass 6. If this Group is elected, then the below summarized sequence election is required. If this Group is elected, then the below summarized 2 species sets (A and B), election of a species from each set is required.

- IX. Claims 37-41, drawn to a method of determining embryo fitness, classified in classes 435 and 702, subclasses 6 and 19, respectively. If this Group is elected, then the below summarized sequence election is required. If this Group is elected, then the below summarized 2 species sets (A and B), election of a species from each set is required.
- X. Claims 42-46, drawn to a method for selecting advantageous growth conditions for embryo development, classified in classes 435 and 702, subclasses 6 and 19, respectively. If this Group is elected, then the below summarized sequence election is required. If this Group is elected, then the below summarized 2 species sets (A and B), election of a species from each set is required.
- XI. Claim 53, drawn to a plant cell, classified in class 800, subclass 295. If this Group is elected, then the below summarized sequence election is required.
- XII. Claims 54-57, drawn to a method for producing a protein product during embryo development, classified in class 435, subclass 69.1. If this Group is elected, then the below summarized sequence election is required. If this Group is elected, then the below summarized 2 species sets (A and B), election of a species from each set is required.
- XIII. Claims 58-61, drawn to a method for staging embryos by monitoring expression of the protein product, classified in class 435, subclass 7.1. If this Group is elected, then the below summarized sequence election is required. If this Group is elected, then the below summarized 2 species sets (A and B), election of a species from each set is required.

Sequence Election Requirement Applicable to All Groups:

In addition, each Group detailed above reads on patentably distinct sequences. Each sequence is patentably distinct because they are unrelated sequences, and a further restriction is applied to each Group. For an elected Group drawn to amino acid/polypeptide sequence, the Applicants must further elect a single amino acid/polypeptide sequence. For an elected Group drawn to nucleotide sequences, the Applicants must elect two nucleic sequences (See MPEP § 803.04). Specific to Groups I-IV, VIII-X, and XIII, the claims in these Groups are directed to a multiplicity, which is at least a plurality of nucleic acid sequences. Applicant may elect two sequences if Group I-IV, VIII-X, or XIII is elected. It is noted that the multiple of sequence submissions for examination has resulted in an undue search burden if more than one nucleic acid sequence is elected, thus making the previous waiver for up to 10 elected nucleic sequences effectively impossible to reasonably implement.

MPEP § 803.04 states:

Nucleotides sequences encoding different proteins are structurally distinct chemical compounds and are unrelated to one another. These sequences are thus deemed to normally constitute independent and distinct inventions with the meaning of 35 U.S.C. 121. Absent evidence to the contrary, each such nucleotide sequence is presumed to represent an independent and distinct invention, subject to a restriction requirement pursuant to 35 U.S.C. 121 and 37 CFR 1.141 et seq. Examination will be restricted to only the elected sequence. It is additionally noted that this sequence election requirement is a restriction and not a specie election requirement.

SPECIE ELECTION REQUIREMENT FOR ALL GROUPS I-XI and XIII:

3. This application contains claims directed to the following patentably distinct species of the claimed invention:

Hybridization conditions (A):

4. Species of hybridization species are cited in claims 5-7, which are generally separately analyzed and published, and thus document the undue search burden if searched together. Thus, applicants are required to select an unspecified hybridization condition or a hybridization condition from those listed in claims 5-7.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1-5, 8, 9, 14-16, 25-53, and 58-61 are generic to the above species in all Groups.

Methods for determination of expression (A):

5. Species of methods for expression determinations are cited in claims 8 and 29, which are generally separately analyzed and published, and thus document the undue search burden if searched together. Thus, applicants are required to select an unspecified type of method for expression determination or a type of method for expression determination from those listed in claim 8.

6. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1-25, 30-32, 37, and 42-61 are generic to the above species in all Groups.

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7. Applicant is advised that a reply to this requirement must include an identification of a specie from list of specie sets cited above that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

8. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

9. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

10. The inventions of Groups I; [II, IV, V, VIII-X, XII]; III; [VI, XIII]; VII; and XI are distinct inventions because they are directed to different chemical types or methods regarding the critical limitations therein. For Group I, the critical feature is a database. For Groups II, IV, V, VIII-X, and XII, the critical feature is a nucleic acid. For Group III, the critical feature is an array apparatus. For Groups VI and VIII, the critical feature is a polypeptide. For Group VII, the critical feature is an antibody. For Group XI, the critical feature is a plant cell. Further, it is

acknowledged that various processing steps may cause a polypeptide of the claims in Group VI and VIII; or array apparatus of Group III to be directed as to its synthesis by a nucleic acid set forth in Group II, however, the completely distinct critical features of each Group of the inventions support the undue search burden if they were examined together. Additionally, nucleic acid, polypeptides, array apparatus, and antibodies and their methods of use have been most commonly, albeit not always, separately characterized and published in the Biochemical literature, thus significantly adding to the search burden if examined together as compared to being search separately.

11. Inventions in Groups II, IV, V, VIII-X, and XII are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant application, the nucleic acid of Group V may be utilized in the distinct usages as needed in Group II, which is a method for staging embryos comprising providing at least one embryo, detecting expression and correlating expression. Group IV, which is a method for staging plant embryos comprising selecting total RNA, correlating expression pattern, determining levels of expression, and correlating expression pattern to the relational database. As needed in Group VIII, which is a method for selecting advantageous plant clones. As needed in Group IX, which is a method for determining embryo fitness. As needed in Group X, which is a method for selecting advantageous growth conditions for embryo development. As needed in Group XII, which is a method for producing a protein product during embryo development. Alternatively, a polynucleotide molecule could be used to

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generate an antisense oligonucleotide for RNA interference studies, for example. All of these usages are distinct as requiring distinct and different functions and results thereof without overlapping search due to different subject matter. This lack of overlapping searches documents the undue search burden if they were search together.

12. Inventions in Groups VI and XIII are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant application, the amino acid of Group VI may be utilized in the distinct usages as needed in Group XIII, a method for a method for staging embryos by monitoring expression of the protein product, or alternatively, a polypeptide may be used in a method for determining the degree of affinity between a ligand and its respective receptor in competitive binding assays, for example. All of these usages are distinct as requiring distinct and different functions and results thereof without overlapping search due to different subject matter. This lack of overlapping searches documents the undue search burden if they were search together.

13. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

14. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

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15. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

16. Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (see 37 CFR § 1.6(d)). The CM1 Fax Center number is either (703) 308-4242 or (703) 305-3014.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Dune Ly, whose telephone number is (703) 308-3880. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

18. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, Ph.D., can be reached on (703) 308-4028.

19. Any inquiry of a general nature or relating to the status of this application should be directed to Legal Instruments Examiner, Tina Plunkett, whose telephone number is (703) 305-3524 or to the Technical Center receptionist whose telephone number is (703) 308-0196.

C. Dune Ly
4/30/03

Ardin H. Marschel
ARDIN H. MARSCHEL
PRIMARY EXAMINER